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MISCELLANEOUS.

Report of a Few Cases of Abdominal and Pelvic Surgery.

By A. H. CORDIER, M.D., KANSAS CITY, MO.

Lecturer on Abdominal Surgery Kansas City Medical College, Member American Association Obstetricians and Gynecologists, etc., etc.

Reports of the rare and unusual have been the means of bringing about a familiarity with this class of cases by no other means obtainable. If an apology were necessary for additional reports of like cases, it would be that perchance this article might fall into the hands of some reader who has not become thoroughly familiar with the protean character of the cases here reported, and that through the gaining of this familiarity some sufferer may be relieved or lives saved. I am confident that the diagnosis of most intraperitoneal pathological conditions is, in the great majority of cases, possible prior to operation, yet I am fully aware of the fact that there are exceptions to all rules. I maintain that to diagnose lesions demanding operative interference is always possible in the hands of the experienced, painstaking investigator. Some of the best diagnosticians will be found to be the general practitioners who look over their cases carefully and examine them thoroughly, but we all must admit that experience begets a higher degree of perfection in diagnosis, as in other investigations. I do not claim that it is possible to make a diagnosis of each and every form of several complications existing in the same case; as, for instance, we may have a pyosalpinx, a

dermoid and an appendicitis in the same individual, all active at the same time. While it would not be possible to individualize the three, any tyro or novice would be able to tell that there existed something that should not be there.

Case 1.—Mrs. Z., aged 29, patient of Dr. S. A. Hall. This lady was healthy up to time of marriage. A few weeks after marriage she noticed a yellow discharge, and had some burning on urination. (She was married at the age of 22.) From this time up to the present she has not been well. Usual pains and symptoms of tubal disease. Her menstrual periods up to April 1st have been regular. Has never given birth to a full term child or had a miscarriage. The April period failed to put in its appearance on time, but has a "little flow" two weeks later, or on April 16. Had no flow on May 16, next expected period, but on May 23 had a uterine hemorrhage, passing several clots. About June 10, nine weeks after last regular period, she was awakened during the night with a severe pain in the region of left ovary or Fallopian tube, this pain being of a "tearing" character, and lasting several hours. The next morning she fainted on trying to get out of bed, and had to remain in bed for a few days. The night of the severe pain she "got short of breath" and had a "cold sweat." In a few days she was up again, but on June 20 she developed a pelvic peritonitis of a severe type, accompanied by a high fever, 105°, distention and much pain. This attack lasted for two weeks, and again on July 15 she had a recurrence of the peritonitis lasting several days. From the time of the severe pain up to the present time she has continued to have, at irregular intervals, a "rusty" colored vaginal discharge with an occasional paroxysm of contractile pains. Has remained sore and tender to touch from date

of first attack of peritonitis. On examining her I found her fairly well nourished and not very uncomfortable. She had traveled 500 miles the night previous and the day she came to my office. Temperature and pulse normal. Digital examination revealed a small uterus, well up under the pubis, a patulous os large enough to permit the introduction of the index finger. Back of the uterus, but closely attached to it, I found a semi-fluctuating mass, not very painful unless from firm pressure. Everything in the pelvis fixed.

On analyzing her history I decided I had to deal with a ruptured tubal pregnancy followed by a peritonitis, and the invariable omental and intestinal adhesions. Her history of a yellow discharge soon after marriage was probably a specific vaginitis which extended to the uterus and tubes, the latter becoming diseased to such an extent as to account for her continued ill health and sterility. The diseased tubes regaining enough of their former function to permit the passage of the spermatozoa and to permit the ovum to enter the abdominal tubulostæ, and becoming fecundated in the tube, found there a suitable soil for growth owing to the destruction of the epithelia by the chronic tubal disease. The mere fact of the possibility of a diseased tube recovering sufficiently to permit an ova to enter its abdominal ostæ should be an indication for the removal of the pus-diseased appendages, for if pregnancy should occur it will, more than likely, be an extra-uterine.

The missing of a regular period, to be followed in two weeks by an intermenstrual flow, is a symptom which, if coupled to others, should have great weight as a diagnostic evidence of an ectopic gestation. The hemorrhage that this lady had on May 23, or seven weeks from date of last regular expected period, was undoubtedly the usual effort of the uterus to miscarry, in these cases, when its cavity contains only a decidua membrane.

The decidua was lost in this case, at this time, with the large blood clot passed during the bleeding. The severe pain she had on June 6, or in the ninth week of her

ectopic gestation, was due to a tubal rupture, the child escaping from the tube at this time. The fainting, shortness of breath and cold perspiration, all symptoms of a hemorrhage, were well marked in this case, on the same night that the rupture took place. Nature with her forces came to the rescue with her army of inflammatory (peritonitis) breast-work builders (adhesions) and walled off the septic cavity in the pelvis. Sometimes her battles are not fought so victoriously, the patient dying from the very process inaugurated to save life—localized pelvic peritonitis. She recovered from this attack to have a relapse two weeks later from some slight leakage of septic material—ruptured. In several of my cases of extra uterine pregnancy this after peritonitis has come near masking the actual pathology. Many cases of ruptured extra uterine pregnancy recover from the tubal rupture and resulting hemorrhage only to die from an attack of peritonitis a few weeks later, the origin of the latter being in doubt. The existence of idiopathic peritonitis is disputed by most operators, and I am sure my experience is in accord with this idea.

A patulous os and a "rusty" vaginal (uterine) discharge are conditions, when added to the rest of a history such as this lady gave, of great diagnostic value. The os usually remains patulous and the saneous discharge persists, as long as the diseased and ruptured impregnated tube is allowed to remain in the pelvis. I have seen this condition continue for six months after tubal rupture and death of the fœtus.

At the operation I found universal adhesions of bowel, omentum, bladder, uterus and the diseased tubes. On the right side, and posterior to the uterus, was an abscess the size of a cocoanut, the tubal ostæ opening directly into it. From this opening a small umbilical cord protruded. No child was found. This cord led up to (within the tube) a placenta the size of a hulled walnut. Just at the side of the placenta, and on the upper border of the tube, was a rupture. This accounted for her paroxysm of pain, and symptoms of acute anæmia on the night of June 23. The other tube was found dis-

eased, and was removed. Many old, tarry blood clots were removed during the operation. Irrigation and glass tube drainage. Her recovery was uneventful. Drainage tube removed on seventh day, stitches a few days later.

Sarcoma, while not classified as a malignant growth, is in reality so, in that it may return after removal, and is characterized by metastasis in most instances, yet I believe it is less likely to do so than the truly malignant. I believe that in some instances, and in some localities where it is possible to make a complete removal, permanent cures are effected. The ovaries and tubes being the most isolated organs of the body, would seem to offer the greatest prospect of non-recurrence. Of course the operation must be done early, before attachment to surrounding organs precludes the possibility of total extirpation, and before metastatic nodules develop in remote organs. I briefly cite one case that presents a most typical history of the behavior of these growths affecting the ovaries.

Case 2.—Mrs. B., aged 24; married six years; patient of Dr. Canfields. No children and no miscarriage. Menstrual history negative up to six months ago, when she had a few periods with only two weeks interval. In December, 1893, she first noticed an enlargement in region of right ovary, free from pain at that time. This enlargement grew rapidly and made marked inroads into her general health. For the last three months she has been having more or less pain in the growth and the increase in size has been very rapid, and her general health is much depreciated. An examination reveals an enlargement of the abdomen extending two inches above the umbilicus and completely filling the right inguinal and lumbar regions, and extending far to the left of the median line; rather irregular in its outline on inspection; painless to touch and slightly nodular, but feeling very much like a tense multilocular cyst, having a semi-fluctuating feel about it, more or less movable from side to side. No glandular enlargements. Vaginal examination shows a small uterus pushed to left, and posterior

to the growth. Free fluid surrounding growth.

Taking the history of a rapid growth (ten months) in a young woman, and the marked constitutional effect so early manifested, the presence of free fluid and the nodular character, I was led to believe that I had to deal with a sarcoma of the ovary. The correctness of my diagnosis was proven at the operation.

Operation October 5, 1894. A long median incision (extending from two inches above the umbilicus to symphysis pubes) was made. A bladder attachment to the growth had pulled that viscus up nearly to the navel. This was separated, and the bladder permitted to drop down. An omental adhesion was doubly ligated and severed. The surface from which the bladder was dissected bled very profusely—in fact to such an extent that it was necessary to grasp the base of pedicle (broad ligament) with large tissue forceps and cut the enormous growth away and form the pedicle afterwards. I mean, ligate and trim down to the proper size and length. This hastened the operation, and at the same time controlled the bleeding from the tumor. An abundance of free gromous material escaped from the peritoneum when the incision was made. The cavity was cleansed out thoroughly. The appendix vermiformis was adherent to the growth and was ligated and cut away. The bladder surface continued to bleed, and necessitated the packing of this locality with iodoform gauze. This gauze was removed on the third day.

Drainage tube to bottom of pelvis, and wound closed with silkworm gut sutures. Patient stood the operation well, and left the table with a pulse of 76. Operation lasted forty minutes. The drainage tube and the gauze drained large quantities of fluid, blood-stained, for three days. On the third day gauze drain was removed. On second day temperature ran up to 102°, pulse 96, but soon dropped to 99° and 98½° with pulse of 80 and 74. Suffered but very little pain or nausea after operation. Bowels moved on evening of third day, after having taken ¼ grain calomel every hour.

for six hours, followed by seidlitz. Recovery.

The more experience I have in treating appendicitis surgically the more firmly I am convinced of the correctness of the views I have held regarding the management of these cases. I believe that if every case of appendicitis, well marked, was operated on by a skilled operator, the mortality would be far less than if the cases for operation are selected after assuming what is at this time called a severity demanding an operation. Now, I do not want to be misinterpreted on this point. While I believe the above declaration to be true, I at the same time realize the fact that many cases of appendicitis recover symptomatically without surgical intervention, and others are permanently cured by a process of atrophy. (Appendicitis obliterans.) Even in the cases that are cured by this slow and dangerous method of nature, the patient runs much more risk from the delay and the recurring attacks than if operated on by a skilled operator. The appendix may be completely obliterated and all danger of future attacks of appendicitis past, yet these patients will in the majority of instances have sustained injuries to surrounding organs, or inflammatory bands will be so thoroughly organized and so situated that a partial bowel obstruction is produced, and this is a constant menace to the comfort and life of the individual. Such is the case here cited.

Case 3.—Appendicitis obliterans followed by symptoms of bowel obstruction from inflammatory bands. Mr. G., male, aged 28, patient of Dr. Brossius. Nine years ago he had an attack of what he called inflammation of the bowels, and his right side "caked" and was extremely tender. Had a high fever and was a very sick man for a number of weeks. The soreness and pain continued with varying severity up to the next attack, one year later, which was very much the same as the first. This attack lasted three weeks. After this relapse he remained fairly well for four years, but during this interval he had many attacks of what he called colic and indigestion, having

to resort to mild cathartics to keep bowels regular. This relapse was initiated by severe pain in the region of the appendix and "backache." He had fever, increased pain and tenderness during the attack which lasted about two weeks, leaving him in about the same condition, seemingly, as before. He was troubled with gaseous pains and distention. He had several mild relapses between this period and the month of June, 1894, or four years after the last severe spell. In June, 1894, he came down with a severe attack very much the same as former ones with the exception that the tenderness was less, that no tumor was discoverable, and that he had much more gaseous distention and difficulty in getting bowels to act. This time his attack lasted two months. In December, 1894, I saw the case for the first time. He had just recovered from the two months' attack. Presented his usual symptoms, constipation, gas in bowels, etc., etc., no fever, and no elevation of pulse.

Operation December 10, 1894. Found appendix atrophied, its canal completely obliterated (appendicitis obliterans), length of appendix one inch. It rolled under the finger like a tendon or fibrous cord. An inflammatory band, the size of a finger, was attached to the abdominal parietes at int. ring, and crossed a coil of the ilium, making a partial constriction. This was divided, and appendix removed. He left the hospital in two months time, and has been relieved of all his painful symptoms.

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W. E. McVEY, B.S., M.D., EDITOR.

COLLABORATORS:

J. E. MINNEY, A.M., M.D., Topeka, Kas.

S. G. STEWART, M.D., Topeka, Kas.

J. C. McCLINTOCK, A.M., M.D., Topeka, Kas.

M. B. WARD, A.M., M.D., Topeka, Kas.

W. S. LINDSAY, M.D., Topeka, Kas.

GEORGE EMERSON, M.D., Winfield, Kas.

Topeka, Kansas, Saturday, March 23, 1895.

Too Many Doctors.

The annual cry of too many doctors is again in the air. There are also, if we judge from the expressions of those most interested, too many dentists, too many lawyers, too many merchants, too many mechanics and too many people altogether. There is not a business or profession or a single vocation that is not at present overcrowded. Years ago we were told the medical profession was overcrowded yet there have been thousands of doctors turned out upon the people since then. Does it seem strange that hand in hand with this overcrowding the science of medicine has made the most wonderful progress in its history? The same ambition which stimulates men

to enter a field already overcrowded encourages greater effort on the part of its former occupants to hold their positions. Competition is the incentive to harder work, closer study and the acquiring of more accurate knowledge of the science. It is unfortunate for the weak and incapable, but to the man who has the strength of mind and the energy of character to push on the bigger the crowd the harder he works and the more successful he becomes.

The survival of the fittest seems an unmerciful law of nature, but upon no other basis could the present progress of our sciences be maintained. To those who are continually bewailing the overcrowded condition of the profession there can be but one answer—seek other fields or push on to the front. The man with energy does not wait for opportunity, but if no place awaits his coming he makes a place for himself. The man who can find no place for himself in the practice of medicine will soon find he has miscalculated his ability and seek other fields. The hard times influence the business of the physician in the same ratio as other businesses. He suffers no more from financial depression and he benefits no more from inflation of prices than does the lawyer, the minister, or the merchant. The effects of financial depression could be counteracted by a thinning of the ranks of the profession, but the same rule would apply to every other business, and the final proposition must be that there are too many people.

The very fact of the rapid increase of the number of doctors has elevated the standard of requirements, and at no period in the history of medicine has a student been required to attain such qualifications as now. This is true in every other calling in life. Competition is the stimulus to secure better facilities and attain greater results.

DR. A. H. CORDIER, of Kansas City, has devised a new instrument in the way of a shot compressor. It is arranged so that the shot can be seized and the catgut or wire readily introduced. It then pushes the shot down, compresses it and cuts off the catgut.

Topeka Academy of Medicine and Surgery.

The Topeka Academy of Medicine and Surgery met in regular session at the usual place of meeting.

President Magee being absent, Dr. J. C. McClintock was elected president *pro tem*.

The meeting was called to order promptly at 8 P.M.

Present: Drs. J. C. McClintock, R. E. McVey, W. E. McVey, Gilbert, Alkire, Adams, Barnes, Wehe, Minney, Duncan, Powell, and Storrs.

Dr. W. S. Lindsay read a paper on "Polio Encephalitis," including in it report of a case. The paper was neatly illustrated by crayon drawings upon blackboard.

Discussion—Dr. Stewart: I would like to ask about the range of temperature in these cases. I recollect cases of this kind in which the temperature ranged from 108° to 110°.

Dr. R. E. McVey: Do I understand that the doctor presents this case or theory of polio-encephalitis as something new? He has not given us its cause or treatment.

Lindsay: This is not a new theory, and I only mention it in order to present my case. This term is found in but few books and is spoken of as a nice theory but not generally adopted. There was no history of specific disease in this case. The treatment has been outlined in the paper. No medicine was indicated.

Dr. R. E. McVey interrupted by asking whether the essayist would give electricity immediately at the outset of the disease, to which Dr. Lindsay responded: Not until after three weeks. I also gave an account of the etiology of the disease in my paper in this case; the boy ran out when the sun was shining very hot without any hat upon his head.

Dr. Minney asked how dilatation was effected, whether by stimulation of cervical sympathetics or by paralysis of the third nerve.

Lindsay: The control of the pupil may be

destroyed at its seat of origin of motor energy as well as elsewhere. As to temperature, I have never seen a case in the early stage which gave as high a temperature as this one. I saw one case in Topeka having a temperature of 106°. Dr. Jones, of Wakeeney, told me that he had seen in malarial cases and in congestive fevers temperatures which could not be registered by the ordinary clinical thermometers, which register usually as high as 110°.

Dr. Barnes read the second paper of the evening on the subject "Acute Rheumatic Fever." The paper was received by motion.

Discussion—R. E. McVey: The English are great beef eaters; they also drink lots of beer—and all have rheumatism or gout. This is generally attributed to uric acid. The effusion into the joints is albuminous. On the contrary, as against the uric acid theory, uric acid is non-irritating. Lactic acid is a derivative of the starches. The acid preparation is a form of lactic acid. irritates the tissues and causes rickets and osteomalasia by dissolving out the lime salts. The salicylates and soda relieve the joints but not entirely, because the effusion is albuminous. We know that exposure to cold is an exciting cause; further than this we know but little. We will know more in the future.

Stewart: The scope of this paper and the personal experience of its author interested me very much. Rheumatism has been a refuge for many troubles. I remember a case of aggravated rheumatism to which I gave aqua ammonia every one and two hours. The pain was relieved the next day and the patient recovered. In my next case aqua ammonia failed. The salicylates and salophen, by their good effects, seem to point to a microbic origin. We do not find much uric acid present in the urine in acute cases, but it is present in chronic cases. I think that many of these rheumatic pains are due to imperfect digestion. I protest against the six weeks idea. My plan is to give 10 grains of sodium salicylate every hour until four or five doses have been taken or until constitutional effects are produced,

then omit for six hours and then repeat to cessation of symptoms.

Minney: 1, We do not know the cause of rheumatism. 2, We cannot effect a cure, render the patient comfortable, and do not try to abort the disease.

R. E. McVey: I can't tell how many cases of rheumatism I've had in the past six months. I never have a case longer than one week. They are very liable to relapse. I give

R Sodii salicylate gr. lxxx
 Pot. bromidi, } aa. gr. xlviii
 Pot. iodidi, }
 Ess. gaultheria..... f 3 ij
 Glycerin..... f 3 ss
 Aqua.....qs. ad f 3 ij

M. et Sig.—Give one teaspoonful every four hours.

Barnes: Recently I have been more careful with diet, taking less beefsteak. In my own case the fever did not last more than one week, but the depression continued for some time. Complications always retard recovery.

Dr. R. E. McVey then reported some cases of eclampsia and epilepsy which he had cured by giving 15 grains of phenacetin followed by $\frac{1}{2}$ ounce dose of salts.

Dr. Stewart claimed that he also had used phenacetin in this way with like results, but he gave 5 grains every two hours until four or five doses had been taken.

The secretary presented a bill for

250 postal cards.....	\$2 50
Blank book for constitution.....	40
Two note books for minutes.....	40
Total.....	\$3 30

On motion of Dr. Stewart, the Society voted that the bill be allowed and that the secretary be directed to draw upon the treasurer for the amount.

A committee appointed by the president *pro tem.*, consisting of Drs. Wehe, Gilbert and Alkire, reported favorably upon the name of Dr. S. Kirby, and the secretary was instructed to cast the unanimous ballot of the Society for Dr. Kirby. The secretary cast eleven votes for Dr. Kirby and she was thereby declared a member of the Society subject to signing the constitution and paying the initiation fee.

L. M. POWELL, M.D., *Secretary.*

Strychnine Delirium.

The Therapeutic Gazette.

Those members of the medical profession who have employed caffeine very largely in the treatment of cardiac and renal disease have recognized that large doses of this drug, continuously administered for a considerable period, developed in certain individuals what has been popularly called "caffeine craziness." In other words, the full medical doses required by the condition of the heart or kidneys have also been sufficiently large not only to produce an increased activity of the brain, such as is seen when coffee is taken in large amounts, but also have gone farther than this, and by the very cerebral stimulation produced temporary insanity. Within the last few years the medical profession has been employing in certain states what may be considered as massive doses of strychnine in the treatment of failing respiration or circulation, and has obtained therefrom very good results. It having been found that these full doses of strychnine acted favorably, when given in an emergency, we have been tempted to continue their administration where the symptoms were relieved but temporarily, and, as a result, have oftentimes been pleased with their effect. On the other hand, a sufficient number of cases have been seen in which cerebral disturbance has followed these large doses to put us continually on the lookout for such untoward symptoms. As a rule, he who administers large doses of strychnine in an emergency is on the *qui vive* for some twitching of the muscles of the forearm or other portion of the body as an evidence of the drug. While we believe that these symptoms are commonly produced by a single administration of the remedy, we are also confident that its continued administration in full doses frequently fails to produce these evidences of heightened reflex activity, and in their place causes a more or less active delirium, in which the patient frequently refuses to take his medicine, or develops the delusion that his attendants are conspiring to poison him or do him some other injury.

An Old But Flourishing Blunder In Medical Chemistry.

The Therapeutic Gazette.

Folkard, in the *American Journal of Pharmacy* for November, 1894, uses this title for an article, in the course of which he says, "Lithic urate is more soluble than any other of these salts (the urates); hence lithia water is occasionally prescribed to gouty patients and to others who suffer from a superabundance of uric acid."

The above is an extract from p. 773, Part III., of Miller's "Elements of Chemistry," fourth edition, published in 1869, and there is sufficient semblance of truth in it to mislead those who are able to devote but a few months to the study of chemistry, as is the case with the majority of medical students.

Although the paragraph quoted was omitted in the new edition published in 1880, it would seem that no attention was called to the subject, for sufferers from a too abundant secretion of uric acid have been treated up to the present time on an erroneous assumption, proceeding from the "little knowledge" which is admittedly so dangerous, and which is also, doubtless, responsible for the practice of exhibiting chlorate of potassium in cases of blood-poisoning, "to oxidize and destroy the poison in the blood," whereas every chemist is aware that in an alkaline solution like the blood the chlorate of potassium is practically as stable and inert as the chlorate or as common salt.

In these remarks the writer disclaims the idea of censuring the members of the medical profession, because these chemical subjects, and if blame be due anywhere, it must undoubtedly fall upon chemists for neglecting to point out to the members of an allied profession the absurdities involved in these two cases.

There is, however, one great consolation for the uric acid and pyæmic patients who have been wrongly treated,—viz., that both lithia water and chlorate of potassium are (so far as we know) harmless,—quite unlike the copious bloodletting and salivation treat-

ments of a by-gone age.

At the same time it must be remembered that use of valueless "remedies," however harmless in themselves, hinders or altogether prevents the search for real and rational ones. The sooner, therefore, attention is drawn to them the better for the patients, even should there be nothing to propose in lieu of those discarded.

Although the absurdity of the lithia water "bull" merely requires to be mentioned to a trained chemist to be at once recognized, it may be as well to give a few details.

In the first place, substitution of lithium for sodium in the animal economy would probably be by no means an unimportant change. Physiologists have found that the substitution of the blood of one animal for that of another is possible in the case of allied species, but in that of animals belonging to different genera the change may be followed by immediate death. In all probability, therefore, it would be a very risky proceeding to convert the albuminate of sodium in human blood into albuminate of lithium, even if it were possible. Fortunately for the patient, however, this is as likely to be successful as the notion regarding the medicinal use of free phosphorus—viz., "The brain contains free phosphorus, and the more brain work the more of that element is excreted. Therefore, to restore brain waste, give phosphorus pills." Such a crudity as this would be scouted, even as regards the mineral kingdom—*e. g.*, in the simple, or comparatively simple, operations of metallurgy.

In the second place, the question of quantity may be considered. As a bottle of lithia water contains about five grains of lithia, it is chemically equivalent to about ten grains of sodium.

The quantity of blood in an adult being about 100,000 grains, and containing about 294 grains of chloride of sodium, equivalent to about 156 grains of sodium, it would evidently require fifteen or sixteen bottles of lithia water to replace the sodium by lithia, supposing that sodium salts were absent from the food.

From the quantity and composition of the

urine, however, we know that about 140 grains of common salt, equivalent to about 75 grains of sodium are excreted every twenty-four hours, derived, of course, from the food. It follows, therefore, that from seven to eight bottles of lithia water would be required every day for the sole purpose of dealing with the sodium salts introduced in the food.

These results are conclusive as to the value of the present practice.

To the chemist, however, the above figures are superfluous. He knows that the tendency is toward the formation of the more insoluble, not the more soluble compounds; and that for lithia to be of any service in avoiding decomposition of urates in the joints or bladder, all bases which form compounds with uric acid of less solubility than lithic urate (potassium, sodium, ammonium) must be absent.

If we have a solution containing a phosphate, a magnesium salt, and free ammonium, we know that in a longer or shorter time a precipitate of ammonio-magnesian phosphate will take place, and the only way to prevent it is to insure the absence of one of the constituents of the precipitate. We cannot argue that "phosphate of potassium is more soluble than ammonio-magnesian phosphate, so by adding a salt of potassium to the solution we shall prevent the formation of the very sparingly soluble magnesium compound," and yet that is the assumption with regard to the medicinal use of lithia water.

It is a chemical exemplification of the truth of the old proverb about one man being able to lead a horse to the water, etc. It would be extremely convenient as regards uric acid patients if lithia water could be made to act in this way, but the laws of chemical combination do not admit of it. The medical profession, therefore, must recognize the fact and seek elsewhere for a remedy or palliative for their patients.

An analogous case occurred in the gas world, where gas engineers strove for many years to purify the gas from bisulphide of carbon vapor by means of sulphide of calcium, and at the same time endeavored to

make the spent lime inodorous by converting it into carbonate before taking it out of the purifier. Here, again, it would have been very convenient if carbonate of calcium could have been induced to combine with carbon bisulphide, but it is hardly necessary to remark that the attempt was a failure.

Although it is a matter for regret that the science of therapeutics should be in such an elementary stage in the nineteenth century, still, the physician is but in the same predicament as the chemist whose work lies in the vegetable and animal kingdoms. Take, for example, the apparently simple question of water analysis. The intellect of the civilized world for fifty years or more has been unable to devise a process (physical, chemical, microscopical, or biological) which will enable the operator to say with certainty, "This water is wholesome." There are several processes which are capable of detecting bad water, but in many cases this can be done by the senses alone, and so recourse must be had to indirect methods, such as ascertaining the mortality and sickness among the people who use the water, or examining the source as to the probabilities of pollution. Little wonder, then, that medical science is frequently baffled in the attempt to deal with the complex problems of human pathology. Mineral analysis is but child's play compared with the study of morbid actions taking place in closed vessels, suspended in another closed vessel, the walls of all of them being opaque.

Brain and Mind: Studies in Development.

British Medical Journal.

The research on cerebral localization, which for some time after Broca's discovery of the habitual lesion of aphasia stood in the van of medical progress, has of late years been somewhat overshadowed, and a new departure for investigating more especially the seat of conscious actions has for some time past appeared desirable. A preliminary communication on a new mode of research into these intricate matters has just been

made by Professor Flechsig, of Leipzig, in an address delivered by him on his election as rector of the University.

Professor Flechsig is well known by his studies on the evolution of the nervous centers in the fetus, and the successive and gradual formation of the myeline sheaths of the central nerve fibers, which he has carried on with singular patience for many years consecutively. They have afforded him a new and important means of recognizing peculiarities of organization in the central nervous system, when other modes of research appeared to encounter insuperable difficulties. He was thus able to show that certain fibers and sets of fibers, which in the adults are so intimately welded together that they seem to be identical, are plainly distinguished from each other during certain phases of embryonic life, inasmuch as some of them are still naked axis cylinders, while others have already become covered with a sheath of myeline. Strands which follow peculiar laws of evolution must occupy a separate place in the general plan of arrangement of the nervous centers, as it is impossible to assume identity where differences amounting to several months are encountered in the development of nerve fibers. It is well known that the evolutionary doctrines of the school La Salpetriere were considerably modified by these researches, the importance of which was fully acknowledged by Charcot in his lectures on cerebral and spinal localization.

By pushing these researches systematically Flechsig was eventually led to his novel conclusions about the centers serving conscious actions. While the lower level of the brain appeared to be completely developed at birth, he found that the child, more especially when prematurely born, enters the world with altogether immature hemispheres the fibers of which are almost entirely devoid of myeline sheaths, and therefore essentially different from those of the adult. At birth the child, indeed, resembles Goltz's dog from which the hemispheres had been removed.

It is not the mere machine which Flourens believed an animal to be after such an operation; for physical wants, more especially hun-

ger and thirst, can still throw the whole body into commotion and stir up all its several mechanisms, while after the satisfaction of such wants the animal returns to rest and an apparently dreamless sleep. In the same manner the newly-born child cries at once, in order to get his wants and impulses satisfied, after which he relapses into "unconsciousness," thus showing the power and independence of physical impulses, which have nothing whatever to do with mental actions; indeed, their rule extends late into life, and many persons appear never to proceed much beyond the stage in which purely physical impulses govern the conduct of the individual.

While therefore the lowest level of the brain is fully matured at the time of birth, only few nerve paths are found to exist in the hemispheres of the infant; and such as are there are exclusively intended for connecting sentient parts of the interior body and some external sense organs with the cortex. One sensory path after another advances from the surface of the body towards the cortex; the first in order being the olfactory sense, which is of so much importance for the proper selection of food; and the last being the sense of hearing. All regions of the grey surface, which pathologists have shown to be connected with sensations, are thus seen to be the endings of sensorial paths in the cortex; in other words, the internal terminal planes of the sensorial nerves. Destruction of these internal sensorial organs leads to blindness, deafness, etc.

It is only after these sensorial paths have been completely built up that a new development is seen to commence in an inverse direction. Some of them begin to advance towards the lowest level of the brain, the spinal cord, and the origin of the motor nerves; and thus one internal sensorial plane after another becomes supplied with conducting paths carrying volitional impulses to the motor mechanisms, that is, the muscles of the peripheral sense organs. First of all in this respect comes the sense of touch, which in man receives nearly a quarter of a million of perfectly insulated conducting

paths, the surfaces of the skin. This abundant development of the internal organs of touch has a considerable influence upon the shape of the human cerebrum, as well as upon its intellectual capacities. The internal terminal planes of the external senses enter now into connection with the lowest mechanisms, serving physical impulses, by paths which effect a mutual influence between external sensorial impressions and sensual feelings. While this is more particularly the case with the olfactory organ, an exception is made for the auditory center, which does not show any very evident relation to the lower impulsive centers, in accordance with the higher and more ideal character of auditory impressions.

The area in the upper frontal and anterior parietal region which appertains to the sense of touch thus appears to constitute a portion of a large and connected cortical field, in which the body is, as it were, reflected in its whole extent, and from which all movements serving for the satisfaction of bodily requirements may be voluntarily elicited.

A proper interpretation of sensorial impressions is a function of a different group of areas in the cortex. These can also be strictly defined by the examination of the infantile brain only; and are then found to constitute two-thirds of the entire substance of the cortex, while only one-third of it is in direct communication with sensorial paths. Although these higher or mental or thinking centers, as distinguished from the internal senses, are seen to spread in different directions over the cortex, they have a common structural type, namely, that of the five layers. These centers are (1) the frontal brain proper, situated immediately above the eyes; (2) a large portion of the temporal lobes; (3) a considerable area in the posterior parietal region; and (4) the island of Reil. We have thus four large and well-defined areas in the human brain which are not directly concerned with sensorial impressions from without or within, nor with motor impulses, but the activity of which is entirely directed inwards. Anatomically these areas have been found to possess a definite peculiarity, which clearly points

to their mental nature, inasmuch as they remain immature and completely devoid of myeline for several months after birth, in opposition to the sensorial centers which have then already arrived at maturity.

It is only after the internal architecture of these latter have been completely finished that a new movement is seen to spring up in the mental centers, for now innumerable fibers begin to advance from the sensorial into the mental areas, and conducting paths proceeding from the former enter into communication with each other, and terminate close together in the cortex. These mental centers are, therefore, mechanisms which co ordinate the action of the different internal and external senses, so as to become higher units, and associate sensorial impressions of different kinds, so as to become carriers of coagitation, as the prophetic genius of the Latin language has termed the act of thinking.

While, therefore, this hypothesis flows directly from the anatomical observations on the development of the infantile brain, Prof. Flechsig has found it to be confirmed by clinical experience in mental diseases. The centers of associations, as he prefers calling the mental areas, are found to be pathologically altered in those diseases of the mind which we know best, such as general paralysis, where the microscope shows us changes in cell after cell, fiber after fiber, and where the consequences of such pathological alterations may be clearly traced. Morbid irritation of these areas causes confusion of thoughts and insane delusions, while their destruction is followed by loss of the power of utilizing the past and foreseeing the consequence of actions. Experience, knowledge, principles, the higher sentiments, and language are all swept away when poisons or other injurious influences decompose or destroy these mental centers.

CAPT. J. G. WATERS will deliver the address at the commencement exercises of the Kansas Medical College, Thursday evening, March 28.

Treatment of Fresh Wounds.

The Medical and Surgical Reporter.

Dr. Wechselmann (*Medicinische Neuigkeiten*, No. 45, 1894) warns the general practitioner against the use of the multitude of new antiseptics which have been recently thrown upon the market for they are of doubtful value and dear. The bichloride, carbolic acid and iodoform are the standard antiseptics. Besides these absorbent cotton, sterilized mull, iodoform gauze, pure soda, potash soap, sublimated silk and bandages are the requisites for the surgical bag. The chief duty of the physician in fresh wounds is the prevention of infection. The first important feature is the disinfection of his own hands. Here Fuerbringer's advice is applicable: washing the hands for one minute, with a brush, potash soap and warm water, then follow for a minute with alcohol, and finally, for one minute, washing with a bichloride solution, 1:1000. The brush should be kept continuously in a 1:1000 solution of the bichloride, or be frequently boiled in a soda solution. It is more convenient to keep special brushes for suppurating wounds as well as special instruments also for this purpose; two scalpels, one dressing forcep, an artery forcep, a pair of shears and a director. They should be boiled for fifteen minutes after each time used in a solution of soda. A simple enameled kettle is quite sufficient. The instruments are merely placed in this vessel, enough water placed over them to cover them, and about a tablespoonful of soda added for each quart of water and then it is placed on the stove. In ten to fifteen minutes, while the other preparations are being made, they will have been boiled sufficiently. The kettle and the instruments are then cooled by placing in a large vessel of cold water. In a fresh wound one may proceed as follows: Wound is first covered, without being previously touched, with a compress wet with a solution of the bichlor. 1:1000, the instruments sterilized as directed, the hands disinfected, the vicinity of the wound disinfected by washing with potash

soap and water always away from the wound towards the periphery, if necessary shaving and then with a second washing with alcohol and the bichloride. The wound is then covered with a second compress, the hands again disinfected, the instruments are then taken out of the soda solution and placed in a clean dish (no antiseptic solution is necessary) and then the wound is attended to. In wounds that are greatly crushed, or where asepsis is doubtful, a place should be left open and slight drainage be made with a strip of iodoform gauze. The wound is then dusted with iodoform powder, covered with iodoform gauze, and with absorbent cotton and then over this a simple mull or starched gauze bandage. The first dressing should be renewed according to the size of the wound from the third to the fifth day, when, at the same time the stitches and drainage may be partially or wholly removed. The second dressing should be removed if an uncomplicated course is expected at about the time that healing will have taken place, as too frequent and unnecessary changing of the dressing only hinders healing. After this a piece of cloth, spread with boric acid salve, is quite sufficient. In suppurating or otherwise infected wounds dry dressings do not do as well as moist ones which are changed once a day or oftener.

Here compress, wet with 1:2000 or salicylic acid sol., over which is placed gutta percha, paper, etc., will do good service. Beware here of a carbolic solution which frequently acts as a caustic and on the fingers gives rise to gangrene.

Dr. Senn on the Ethics of Consultation.

The Railway Surgeon.

On February 16, Dr. Senn lectured to the students of Rush Medical College on the ethics of medical consultation, illustrating his remarks by having three of his senior students hold a formal consultation under his guidance.

He began by saying that he expected that every member of the graduating class would join a local medical society; if the society

were a small one it would be an advantage rather than a disadvantage. It would not be necessary to be always reading elaborate papers on newly planned operations: better that they should discuss points in physiology, pathology, etc., a clear understanding of which would not fail to secure for them the appreciation of the older members. He strongly disapproved of graduates of only one or two years standing taking an active part in national conventions. Much better that they should first do good work with the local society, working upward through the country and state societies to the national ones.

Referring to the subject of fees, Dr. Senn said every physician should, besides being a good physician, be a business man. He should be as thorough in business matters as in scientific ones. Every doctor should be properly paid for his services. He had no sympathy, he said, with all the sentimental talk about charity: after a medical man has rendered an efficient service, he is justly entitled to proper remuneration. And after fees have once been charged they should be collected and not allowed to remain on the books indefinitely, because just as long as a patient is owing his doctor he is the doctor's enemy.

Passing on to the matter of consultations, he said they are held (1) at the request of the friends to satisfy them that everything possible was being done for the patient; or (2) at the request of the physician for his help and guidance and to guard himself if necessary. Every regular physician ought to be willing to consult with another regular when asked to do so by the friends. There could be nothing to lose by it if the consultant were a gentleman, and if he were not it was better to know it. If the family physician asked for consultation he should take care that his consultant was properly rewarded for his work, and since the physician in charge of the case would have to make a definite appointment, he would be justified in doubling his usual fee for calling. The physician having the case would first tell his consultant or consultants all he knew of the case that would help them; he ought to know

more than they could learn from one examination, and would doubtless be possessed of information they would not be likely to glean.

This should be done in the absence of patient and family. The patient should then be seen and examined by all, and questioned by the consultants if necessary. They should then retire to discuss the case. Dr. Senn insisted strongly on the physician's privilege of secrecy in this discussion. He said the friends had a right to know the result but not to pry into the discussion of the case. If necessary the patient should be re-examined before a decision was made.

The physician in charge should ask the senior consultant for his opinion, next the junior consultant, and lastly could express his own. Differences of opinion should be freely discussed at this time, and not on meeting the friends. The result should then be communicated to the family through the attending physician, and the consultants expressing their confidence in the physician's ability to manage the case, should collect their fees and depart.

A Second Case of Ocular Diphtheria Treated by Serotherapy.

Dr. Coppez in Jour. de Med. et de Chir. de Bruxelles.

A detailed description is given of this case to emphasize the special character of the stage of repair following the injection of serum.

The false membranes, says the author, disappear more or less rapidly and leave behind them healthy tissue. There is no period of suppuration or repair. The disease is cured at the outset. The disappearance of the false membranes takes place in inverse order to their appearance. "They seem to melt like a snowflake in a ray of sunlight," is the picturesque expression of Professor Coppez, or, in more scientific terms, they seem to disappear by a process similar to that by which they came.

It is superfluous to dwell longer on the important role played by serotherapy in the treatment of ocular diphtheria. Thanks to

